

Appl. No. : 10/791,683
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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions. Only those claims being amended herein show their changes in highlighted form, where insertions appear as underlined text (e.g., insertions) while deletions appear as strikethrough text (e.g., deletions).

1.-30. (Cancelled)

31. (Currently Amended) In a signal processor for processing at least two measured signals M_1 and M_2 , where said signal M_1 comprises a ~~combination of a physiological signal portion S_1 and may comprise a signal noise portion N_1~~ , and where said signal M_2 comprises a ~~combination of a physiological signal portion S_2 and may comprise a signal noise portion N_2 , where S_1 is approximately proportional to S_2 and where N_1 is approximately proportional to N_2~~ ; a method comprising:

~~determining a value for a coefficient c used in a combination of M_1 and M_2 such that the combination of M_1 and M_2 approximates S_1 , such that an error value e , given by the relation $e = S_1 - (cM_1 - M_2)$ is at least partially reduced, wherein determining the coefficient c comprises comparing frequency domain representations of the two measured signals M_1 and M_2 ; and~~

~~using said coefficient c to remove at least some of the signal noise portion N_1 from the measured signal M_1 , and thereby producing an approximation A_1 to said physiological signal S_1 , where $A_1 = cM_1 - M_2$; and determining a measured output value for one or more physiological parameters based at least in part on said approximation A_1 .~~

32. (Currently Amended) The method of Claim 31, where A_1 , M_1 and M_2 are comprise frequency domain signals.

33. (Currently Amended) The method of Claim 31, further comprising displaying the ~~resulting clean signal A_1~~ on a display.

34. (Currently Amended) The method of Claim 31, ~~wherein said first and second signals are physiological signals, further comprising the step of processing said clean signal A_1 to determine a physiological parameter from M_1 and M_2 said first and second measured signals.~~

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35. (Currently Amended) The method of Claim 34, wherein said physiological parameter is comprises arterial oxygen saturation.

36. (Canceled)

37. (Currently Amended) The method of Claim 32, wherein ~~the first portion of said measured signals S_1 is indicative of a heart plethysmograph, further comprising the step of calculating the a pulse rate of the heart.~~

38. (New) The method of Claim 31, further comprising determining, based upon the comparison of M_1 and M_2 , whether M_1 comprises N_1 .

39. (New) The method of Claim 38, further comprising disabling said usage of c to remove at least some of the noise portion N_1 if M_1 does not comprise N_1 .

40. (New) The method of Claim 31, wherein the combination of M_1 and M_2 comprises a linear combination of M_1 and M_2 .

41. (New) The method of Claim 40, wherein the linear combination of M_1 and M_2 comprises $cM_1 - M_2$ such that $A_1 = cM_1 - M_2$.

42. (New) The method of Claim 41, wherein an error value, e , given by the relation $e = S_1 - (cM_1 - M_2)$ is reduced.

43. (New) The method of Claim 31, wherein comparing the two measured signals M_1 and M_2 comprises calculating ratios of values of a frequency domain representation of M_1 to corresponding values of a frequency domain representation of M_2 .

44. (New) The method of Claim 43, wherein said ratios are calculated using values that correspond to peaks in said frequency domain representations of M_1 and M_2 .

45. (New) The method of Claim 43, wherein determining whether M_1 comprises N_1 comprises determining whether the ratios have a predetermined degree of similarity.

46. (New) The method of Claim 31, comprising displaying the measured output value on a display.